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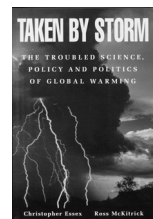
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Editor's notes

The other day, one of our distinguished Senior Fellows who immigrated to Canada more than 30 years ago said that with the signing of the Kyoto Protocol, he'd never felt more disappointed in Canada's policies. He sees the ratification of the accord as the latest and most egregious in a long string of short-sighted, ill-thought-out, expensive schemes dreamed up by our governments.

I won't go into the costs of Kyoto here; the rest of this issue of *Fraser Forum* does a fine job of explaining why Kyoto could prove to be an economic nightmare. The issue also explains, in as clear and non-technical a language as possible, the scientific reasons why the Kyoto Protocol is unsound. Not that these explanations or concerns should come as a surprise to anyone. The Fraser Institute and others have been demanding the government explain its reasoning behind its desire to sign the accord and its plans for implementing it for some time.

But the federal government has chosen to ignore our concerns, just as it did when Gary Mauser warned in a Fraser Institute publication in 1995 that the gun registration plan was going to cost up to a billion dollars (*Gun Control is Not Crime Control*, p. 28). Yet here we are now, with a boondoggle whose costs, which have skyrocketed from the estimated \$2 million to nearly \$1 billion, are showing no signs of abating. If anything, Professor Mauser was too conservative in his estimates. The government's wild inaccuracy on gun registration gives little reason to be confident in its current assertion that the Kyoto Protocol will be a bearable expense and that no single region or group of taxpayers will shoulder the bulk of the burden.

Presumably the folks who conceive of government training programs, firearms registries, and plans to lower CO₂ emissions do so with the best possible intentions. The problem is, the legacy that they are trying to leave to benefit "our children and grandchildren" will end up costing those same children and grandchildren. They are the ones who will experience the long-term consequences of an economy staggering under the heavy weight of such grandiose schemes. We all want to be remembered after we are gone. We all want to leave a "legacy." It's just that most of us have to leave what we legacy can with our own money and what talents we have. It's a message our politicians should heed.

—Kristin McCahon

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Classless Action

by Neil Seeman

There's lots of work for lawyers in Ottawa these days. More than 2,000 lawyers work for the Justice Department (either on staff or on contract). That's a 44 percent jump in legal personnel from 1997 (Blackwell, 2002). Why are taxpayers paying for so many lawyers?

Ottawa needs all that high-priced legal talent to cross swords with the growing army of litigants bent on suing the federal government. Ottawa's contingent liabilities (the money it would have to pay out if it lost all the pending litigation), was \$9.3 billion in 2001-2002 (Public Accounts of Canada, 2001-2002).

"In recent years, the federal government has experienced a large growth in the volume, complexity, cost, and risk of its civil litigation," says the Justice Department's 2002 annual performance report.

At the root of this phenomenon is the class-action lawsuit: Although legislation allowing class actions is not new (until 1993, class actions were not permitted in Canada outside the province of Quebec), the types of proceedings that have been certified as class actions have evolved in two critical ways: (a) federal and provincial governments are increasingly the targets of such proceedings, and (b) the economic claim leveled against the government is increasingly based on a social theory of what governments "should do" in the name of equity (i.e., redistributive justice), rather

than on the traditional tort law principle of remedying past wrongs (i.e., corrective justice).

If courts reward class-action lawsuits based on the principle of redistributive justice, they will overturn political choices made at the ballot box. In December, the Supreme Court considered a Quebec rule that reduced welfare payments in the late 1980s from \$434 to \$163 per month for able-bodied adults under 30 unless they entered job training, community work, or school (*Louise Gosselin v. The Attorney General for Quebec*). The class-action lawsuit requested \$388,563,316 in compensation, the amount the lead plaintiff said all young-adult welfare recipients in the province were denied under the rule. In the end, the court properly dismissed the suit, but didn't penalize the plaintiff for launching the frivolous claim. The Court left open the possibility that similar claims might succeed if politicians impose welfare rules that appear "stereotypical or arbitrary."

Aggressive class-action lawyers now seek to engineer social policy through the courts. In October, a group representing hundreds of families with autism disorders said it would sue the Quebec government for "systematic discrimination" in its denial to children of a "medically necessary" treatment, i.e., intensive behavioural early intervention. Last April, a \$500-million lawsuit was lodged against the Ontario government on behalf of families whose special-needs

children do not have "adequate" social-support services (Autism Society of Canada, 2002).

Some class-action lawsuits are more deserving than others. Not all class-action proceedings run counter to the traditional tort law principle of corrective justice. Last March, the Ontario Court of Appeal ruled in favour of thousands of disabled Canadian veterans (*Authorson v. Attorney General of Canada*). The veterans are members of a multi-billion dollar lawsuit launched against the federal government. The class-action lawsuit, certified in October 1999, was brought against the federal government for its failure to pay interest on millions of dollars that it held in trust since the First World War on behalf of disabled veterans who had been deemed unable to manage their financial affairs.

The veterans' lawsuit exemplifies some of the best arguments in favour of class-action proceedings. That is, class actions may permit the pursuit of claims that individually would have been uneconomical to pursue, and they may reduce the amount of judicial resources required to resolve such disputes. More important, the veterans' lawsuit stakes its legal claim on the traditional grounds of corrective justice: it alleges a past injustice, enumerates precise damages, and identifies specific action on the part of the government that allegedly gave rise to the present circumstances in which the veterans now find themselves.

When deciding whether to allow such a class action to proceed, courts look to see if the claim satisfies the objectives of all class-action legislation: increased access to justice, an efficient use of judicial resources, and deterrence of future wrongs. The judge must also confirm that the facts alleged seem to justify the conclusions sought (McKee, 1997).



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There should, however, be a further consideration when the target of the suit is the government. It is this: does the claim seek to radically change the intent or the effect of legislation? If the answer is yes, then judges should be hesitant to allow the claim to proceed. This would create a legal presumption that class actions designed to alter legislation are unmerited, which would then trigger an adverse cost award against the representative plaintiff. This would create an economic disincentive to sue governments on baseless grounds.

None of this means governments should be pardoned for overt negligence or discrimination. Rather, it is to point out that class actions related to a government denial of benefits are different from class actions related to defective toilets or exploding toasters.


The media share some of the blame for not making this distinction. Too often class-action lawsuits, no matter how frivolous, are sympathetically portrayed as David-versus-Goliath stories. The economic and political implications of class actions deserve more scrutiny.

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Like Lipstick on a Pig... The Politics of Kyoto

by Barry Cooper

About a year ago the federal government distributed a colourful announcement in newspapers across the land proclaiming that "the earth is getting warmer" and that implementing the Kyoto Protocol would fix things. At around the same time, the federal energy minister, Herb Dhaliwal, observed that "some important details have to be worked out before Canada ratifies the Kyoto Protocol." He prudently added, "I wouldn't sign a contract in business unless I knew exactly what it meant." One of the central unknowns is the cost of implementing Kyoto and who will bear it.

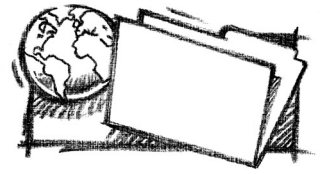
Several estimates of the costs of implementation have appeared. Late in 2001, Natural Resources Canada sponsored a study that indicated the costs would be high, equivalent to a one-year recession. About half a million current and future jobs would be lost, and the dollar value was in the range of \$45 billion over 10 years. A few months later, the Canadian Manufacturers and Exporters association estimated the costs in the \$40 billion and 450,000 job ranges, and a few days later the Government of Alberta said costs would be between \$40 and \$60 billion. Over the summer, the federal environment minister, David Anderson, came up with the figure of \$16 billion and 200,000 foregone jobs. This was thought by Anderson still to be

too high, so the numbers were kept secret even from his cabinet colleagues until they were leaked to journalists. In October 2002, a further set of estimates was released: Kyoto would cost between \$5 billion and \$21 billion and between 61,000 and 244,000 lost jobs. And finally, late in November, the estimates were repackaged as a mere 0.4 percent of GDP and 60,000 jobs.

Alberta's environment minister, Lorne Taylor, was particularly scathing in his commentary on the last announcement. "It's a clear breach of trust," he said. "It's like lipstick on a pig. They're not working in collaboration with the provinces when they release [their unilateral position] to the press and the public without even discussing it." The resource and industry minister of Saskatchewan, Eldon Lautermilch, the Nova Scotia energy minister, Gordon Balser, and Alberta Premier Ralph Klein joined Taylor in criticizing Ottawa for having proceeded unilaterally. Indeed, Klein is on record for having compared Kyoto to the detested National Energy Program of the Trudeau years.

David Anderson responded to the premiers' criticism in November 2002 by saying that "it's time to put the debate

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over ratification behind us,” adding that, “the government of Canada has exclusive constitutional authority to ratify international treaties, including, of course, the Kyoto Protocol.” Anderson added that granting Parliament leave to discuss Kyoto was purely discretionary on the part of the government and Prime Minister Chretien because the government can commit the country to international agreements simply by issuing an order-in-council.

Several reasons have been advanced to account for the decisiveness of the government of Canada on the Kyoto file, and many are centred on the prime minister.

First, ratifying Kyoto will cause trouble for his most likely successor and the man who hastened his departure, Paul Martin. Martin has said he favours Kyoto, but his stance is bound to offend his own supporters in the business community. However, because Kyoto has been ratified, by the time Martin is crowned, the onus will then be on him to proceed with the much more difficult step of implementing or repudiating an international agreement in the light of global publicity. Either way, Kyoto hurts Martin.

Second, there are the Americans. As former foreign affairs minister Lloyd Axworthy put it, even though “we are living in a carbon-induced climate maelstrom,” we can still “plot a course distinct from our southern neighbour and fire up the political system for a major mobilization.” Likewise, Chretien has disagreed with the Americans in public, as often as possible, and on many issues. Kyoto is just another opportunity. The consequences, however, have been made plain: Canada will be a much less attractive place for

American investment, as the Alberta energy minister, Murray Smith, has pointed out time and again.

Third, there is the little matter of constitutional responsibility. The framers of the Canadian constitution never anticipated the major new areas of government action and regulatory initiative that resulted from technological change. As a result, fundamental constitutional

Chretien has disagreed with the Americans in public, as often as possible, and on many issues. Kyoto is just another opportunity.

battles in the 1920s and 1930s between Ottawa and the provinces took place to decide which level of government would regulate, for example, air transport and broadcasting. The federal government won both these battles. Today Ottawa has decided the time is ripe to pick a fight over environmental jurisdiction. Kyoto is the key to the kingdom, and for some of the more ambitious centralizers in the government of Canada, Kyoto looks like a splendid opportunity to transfer a significant portion of Alberta’s resource revenue to the federal government.

Finally there is the desire of Jean Chretien to provide himself with a “legacy.” But here as well, the prime minister is directly on a collision course with the provinces, especially Alberta. “I don’t know what’s driving this. Is it an obligation to the international community? Does he want to look good in the international community? His obligation is to Canada,” said Klein. In the view of the Alberta premier, it would be highly improper for Chretien to damage his own country in order to create an international reputation for himself.

There is more to the politics of Kyoto than the future of Jean Chretien and the prospects for the electoral success of the Liberal Party of Canada in the energy-producing western provinces. The colourful words, frayed tempers, and bitter animosities that have arisen over the existence—or non-existence—of climate change and its relationship to human activity taints the whole inter-governmental agenda.

Whatever the impact of the Romanow Commission’s report on health care, federal-provincial cooperation is necessary if any changes to the system are to be made. Certainly the goodwill built up by Health Minister Anne McLellan, who is also MP from Edmonton West, and her Alberta counterpart, Gary Mar, has dissipated amidst the enmity caused by Kyoto. This will make any agreements more difficult to reach. Likewise, the cooperative spirit between Edmonton and Ottawa that emerged after the G-8 summit in Kananaskis has disappeared. The most lasting political legacy of Kyoto in Canada is likely to be an atmosphere of acrimony and deadlock because mutual distrust makes federal-provincial cooperation impossible. Nowhere will that be more apparent than in Alberta.

Kyoto Krazy

by Kenneth Green

Canada's ratification of the Kyoto Protocol on Climate Change is now a done deal. Prime Minister Jean Chretien has forced ratification of the Protocol, committing Canada to return emission levels for carbon dioxide and other gases suspected of warming the earth to 6 percent below the levels emitted in 1990. Because emission rates have grown since 1990 and are predicted to continue doing so, Canada's target of 6 percent below 1990 levels equates to a 30 percent reduction from predicted emission levels by about 2012.

As always seems to be the case in these situations, environmental pressure groups such as the David Suzuki Foundation have joined the government in claiming that their support of the Protocol rests on the most robust scientific evidence. They believe that the law is on their side, that they've been terribly conscientious about consultation and cooperation, that there really is a free lunch, and Canada can achieve draconian reductions in energy use at low cost—or even at a profit (Torrie *et al.*, 2002).

But as more pragmatic researchers in the private sector and academia have shown, Kyoto Protocol ratification will provide little benefit, and will likely lead to real and wrenching economic

impacts that will negatively affect the well being of Canadians (McKittrick and Essex, 2002). Indeed, when examined from a public policy perspective, signing and implementing the Kyoto Protocol is a profoundly poor idea that will generate a great deal of pain, but little or no gain, in terms of making a safer world for ourselves and our grandchildren.

First, consider the science behind the proclaimed benefits of Canada's ratification of the Kyoto Protocol. Canada's federal government has justified ratification of the Kyoto Protocol by citing groups such as the United Nation's Intergovernmental Panel on Climate Change, which has published reports suggesting that a warmer climate would cause major ecological disruption necessitating urgent action (IPCC, 2001). But other scientists, in both Canada and the United States, have shown that the threat of global warming is overstated by the United Nations (McKittrick and Essex, 2002). Indeed, scientists such as Harvard University's Sallie Baliunas explain that most observed global warming has been a natural, and largely beneficent phenomenon, primarily related to the increase of energy output

from the sun (Soon, Baliunas *et al.*, 2001).

But even if one believes that global warming poses significant risks for future generations, the science of greenhouse gas reductions suggests that implementing the Kyoto Protocol is largely a waste of effort. On a global basis, Canada only emits about two percent of the gases accused of causing global warming. If Canada managed to achieve the Kyoto Protocol targets, Canadian emissions would decline to about 1.4 percent of global emissions by

... electricity costs would likely rise up to 85 percent in some provinces; natural gas prices by 40 to 90 percent; and the after-tax price of gasoline by 50 percent.

2012, while emissions of countries like India and China continue to grow rapidly. That is not a significant difference when one considers that the world's biggest emitters have not endorsed the protocol, and are unlikely to do so in the foreseeable future. Even NASA scientist James Hansen, who some consider the modern "father of climate change" agrees that it would take 30 Kyoto-like reductions—with full global compliance—to negate what the United Nations climate panel sees as the threat of manmade global warming (Hansen, 2000).



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Second, consider the cost. Cost and job-loss estimates vary tremendously, but Canadian university research economists Mark Jaccard, John Nyboer, and Bryn Sadownik estimate that Kyoto implementation could cost 3 percent of Canada's gross domestic product, could cost the average Canadian family four percent of its annual disposable income, and could cause energy prices to rise substantially (Jaccard, Nyboer and Sadownik, 2002). Presuming that energy producers pass on increased costs to consumers (a good assumption even for Canada's heavily-regulated energy sector), Jaccard *et al.* predict that electricity costs would likely rise up to 85 percent in some Canadian provinces; natural gas prices would likely rise by 40 to 90 percent; and the after-tax price of gasoline would likely rise by 50 percent.

Applying the Jaccard *et al.* estimates to the household economy of a Canadian family of four earning \$40,000 per year, and living in a modest 1,200 square-foot single-story home in Toronto, the total annual cost of Kyoto would include \$1400 in lost income, \$400 per year in additional electricity costs, \$700 per

year in additional natural gas costs, and about \$800 per year in added gasoline costs. That puts the total Kyoto bill for a moderate-income family of four at over \$3,300, or nearly 10 percent of total pre-tax income.

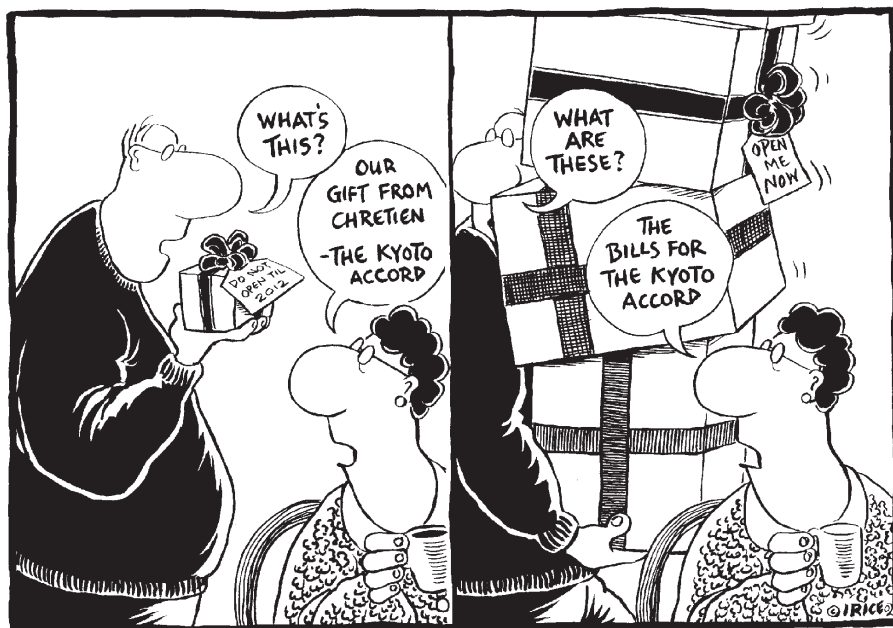
Finally, there is the question of international trade. About 87 percent of Canada's exports go to the United States, accounting for over 40 percent of Canada's gross domestic product. US President George W. Bush has refused to ratify the Kyoto Protocol on Climate Change, and the United States is moving ahead with an alternative greenhouse gas control plan that avoids the kind of economic losses that Canada will soon inflict upon itself. Meanwhile, other countries, such as Mexico, are not bound by Kyoto, and will offer more attractive options for importing goods and exporting services.

The overarching question in a public policy sense regarding the Kyoto Protocol is straightforward: "Has signing the Kyoto Protocol made Canadians better off?" Given that the threat of climate change is far more modest than govern-

ments claim; given that the costs of reducing greenhouse gas emissions are likely to be far higher than government claims; and given that compliance with the Kyoto Protocol will make Canada a less competitive country, the answer is clearly *no*. In fact, rather than make Canadians safer, as its proponents claim it will, the weight of the evidence suggests that Kyoto compliance will make Canadians less safe. Though it will provide virtually no environmental, health, or safety benefit, Kyoto compliance will deprive future Canadians of the resources and economic resilience they will need to face the unpredictable challenges they will invariably confront.

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Ontario Manufacturers Kept in the Dark on Kyoto

by Kimble F. Ainslie

While Alberta Premier Ralph Klein has led national forces in an attempt to mitigate economic damage from the Kyoto Protocol, a key battleground in the next several months and years on the implementation of the Protocol will be in Central Canada. Ontario's industrial heartland has much at stake in terms of unstated, unknown, and hidden economic costs for the future. With this in mind, The Fraser Institute commissioned Nordex Research, a London, Ontario market research and public opinion polling company to survey Ontario's largest manufacturers on the impact of Kyoto. The survey focused on respondents' evaluation of the early ratification of Kyoto, the level of information received and pursued on Kyoto, how closely respondents were following the national debate, likely economic impacts, and the underlying reasons for acceptance or rejection of the Protocol.

The Fraser Institute survey found by a 3:1 margin that respondents opposed early ratification of the Kyoto Protocol. Indeed, they did not understand the reason(s) for the Prime Minister's haste on ratification. Moreover, by a very large majority they said that a made-in-Canada climate change plan was crucial and that such a plan had to have the

agreement of most provincial governments, including the province of Ontario.

It also became evident that the federal government, and even the Ontario Ministry of the Environment, had left the manufacturers out of the loop in terms of receiving basic information on the Kyoto Protocol. Most Ontario manufacturers had been caught short on operational and financial planning for Kyoto implementation, even though a large majority had been collecting air emissions information for various federal, provincial, and municipal government agencies for many years. Most large manufacturers revealed that they had hired environmental officers some time ago (see table 7) to monitor their firm's environmental activities, and keep tabs on what federal, provincial, and local environmental statutes and regulations required.

The survey

The survey, taken by telephone from November 13 to 25, 2002, sampled 100 large and medium-sized manufacturers out of a total population of 748 firms

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identified in the Canadian Trade Index, 2002. Respondents came from all across

Table 1: Demographic Characteristics of Corporate Respondents, n = 100

Sector	
Chemical/Petrochemical	9%
Auto parts/auto assembly	18
Product Manufacturers	66
Others	7
Employee Size	
<20	1%
21-50	0
51-100	0
101-200	4
201-500	39
>500	56
Executive type	
General Manager/ Plant Site Manager/CEO	27%
Engineering Manager	29
Finance Manager	4
Environmental/Energy Officer	36
Other Manager/Executive	4
Geographic Area*	
Metro Toronto	22%
905/Golden Horseshoe/Niagara	27
Central Ontario	8
Eastern Ontario	8
Southwestern Ontario	30
Northern Ontario	5

*Metro Toronto included the metropolitan area of the new City of Toronto. The area called 905/Golden Horseshoe/Niagara captured just west of Metro Toronto to the Escarpment and around south to the Niagara River in the 905 area code. SW Ontario was defined as the area from Guelph to Windsor. Central Ontario was considered as the area and north of Metro Toronto up to Barrie. Eastern Ontario was defined as Oshawa to Ottawa. Northern Ontario started at Huntsville/Bracebridge and continued over to Sudbury and Thunder Bay.



Table 2: Do you favour or oppose Prime Minister Chretien's proposal to have Parliament ratify the Kyoto Protocol before the end of 2002? (n = 100)

Favour	20%
Oppose	62
Don't know	16
Don't care	2

Table 3: To what extent do you and your company favour or oppose federal government climate change regulation to control green house gas emissions, which some believe contribute to global warming?

Very much favour	14%
Somewhat favour	29
Somewhat oppose	14
Very much oppose	19
Don't know/can't say	24

Table 4: (Whether you favour or oppose), how important is it to you and your company for the federal government to have a "made in Canada" greenhouse gases emissions program that has the agreement of most of the provincial governments including Ontario? (n = 100)

Very important	62%
Somewhat important	25
Not so important	6
Not important at all	1
Don't know/can't say	6

the province, but most were located in the industrial corridor from Windsor to Metropolitan Toronto. There were two main groups of representatives: upper management, and environmental offi-

Table 5: How important is it for you and your company to have a detailed plan identified by the federal Department of the Environment before the Parliament of Canada ratifies the Kyoto Protocol? (n = 100)

Very important	79%
Somewhat important	15
Not so important	3
Not important at all	0
Don't know/can't say	3

cers who were primarily attached to product manufacturing firms, chemical/petrochemical producers, auto assembly plants, and auto parts firms.

Findings

The most basic finding of the survey—solid opposition to early ratification of the Protocol—was expected. Indeed, 62 percent of respondents opposed "the Prime Minister's proposal to have Parliament ratify the Kyoto Protocol before the end of 2002"; only 20 percent favoured such ratification (see table 2). This meant that by a 3:1 ratio, the sector of the economy most responsible for implementing the accord in Canada's industrial heartland was solidly opposed to going ahead. This finding is somewhat surprising because the majority of respondents who were prepared to offer an opinion actually thought that the federal government had a legitimate role in "climate change regulation to control greenhouse gas emissions" (see table 3). Forty-three percent of respondents favoured some sort of federal role on air emissions, yet 62 percent stated that it was "very important" not to rush into activating the Kyoto agreement, particularly if no national consensus could be obtained. And 79 percent thought it to be very imprudent to

Table 6: Have you or your company received any official information from the federal Department of Environment or Ontario government agencies on the Kyoto Protocol? (n = 100)

	Yes	No	Don't Know
Federal Dept. of Environment	8%	90%	2%
Provincial agencies	7	91	2

charge ahead without a detailed plan before ratification (see tables 4 and 5). Of course, we now know that ratification occurred without a detailed action plan.

Why are respondents so unhappy about the prospect of early ratification? The most obvious answer is they have been kept in the dark on federal planning for Kyoto implementation. Up to 91 percent of those sampled reported that they had received no official government information on the Kyoto Protocol (see table 6). This finding occurred notwithstanding the fact that most respondent firms ordinarily collected environmental information for federal, provincial, and municipal governments on emissions and effluents (see table 7). Moreover, more than one-third of respondents had "very closely" followed the national debate on Kyoto before Christmas (see table 8).

Perhaps as upsetting as being kept in the dark, respondents were also anxious because they had insufficient time to plan for Kyoto's implementation. They were caught unprepared last summer when the Prime Minister made his Kyoto ratification announcement and seemed bewildered by the speed and ambiguity of successive draft plans produced by the federal government throughout the autumn. By mid to late

Table 7: As far as you know, does your company currently collect information, and keep an inventory of air emissions for purposes of submitting to the federal, provincial, or local governments?

Yes it does	77%
No, it doesn't	20
Don't know	3

Table 8: How closely have you been following the current national public debate over the Kyoto Protocol?

Very closely	35%
Only intermittently	55
Not at all	10

Table 9: As far as you know, has your company undertaken a study or calculated the direct and/or indirect costs of complying with the Kyoto Protocol?

Study completed or deliberations undertaken	12%
Studies and/or deliberations likely in the future	15
No studies or planning anticipated	66
Don't know/can't say	7

November, respondents still had not received a final, detailed, unambiguous plan, and as a result they simply did not know how to respond appropriately (see table 9). In fact, until they do receive a definitive statement from the federal government on their presumed obligations under Kyoto, most firms do not intend to engage in serious economic impact analyses, nor will they commit to serious, long-term investment plans related to the Protocol.

Table 10: To what extent do you think a ratified Kyoto Protocol undertaken by Canada will place your business at a disadvantage compared to American businesses, which are not required to comply?

A great disadvantage	22%
Modest/minor disadvantage	34
No disadvantage	19
Advantaged by Protocol	2
Don't know/can't say	23

Respondents were also uncertain about possible economic injury to their firms arising from the Protocol, particularly in reference to competition with American businesses. Up to 56 percent cited some disadvantage was likely to accrue to their firms in competitive terms; 22 percent indicated there could be "great disadvantage," and 34 percent stated they would experience "modest to minor disadvantage." Only a miniscule 2 percent stated that they would be "advantaged" by the Protocol—an improbable assertion often made by many Kyoto supporters—and 19 percent saw no pending disadvantage attached to the Protocol (see table 10).

Finally, and probably the sleeper issue underscoring dissatisfaction in pursuing early implementation, was resentment toward the tilted playing field Canadian industry must face in worldwide competition as a result of Kyoto. Developing countries are not required to adhere to the strictures of the accord, and a majority of large manufacturers in Ontario strongly dislike this outcome. Up to 56 percent indicated they are "very dissatisfied" that Canada is taking the lead on Kyoto, which will cause economic sacrifices, while similar sacrifices are not required in the developing world, such as India and China.


Table 11: Developing countries currently are not participants in the Kyoto Protocol. How satisfied are you with this arrangement?

Very satisfied	1%
Somewhat satisfied	16
Not so satisfied	16
Not satisfied at all	56
Don't know	11

Another 32 percent had serious to modest reservations on this competitive disadvantage (see table 11).

Conclusion

The results of this poll reveal a failure of political legitimacy on the Kyoto file for the prime minister and his government. Several indicators show that the federal government has been unable to secure basic political support in the industrial heartland for early ratification of the accord. Indeed, when such results show, by a 12:1 margin, that large manufacturers in Ontario have demanded a made-in-Canada climate change agreement and provincial government approval, one would have thought the federal government would have adopted a consultative and accommodating posture. Forcing an artificial deadline and ramming the Kyoto initiative through Parliament did not sit well with this important industry segment.

The government's pre-Christmas, fast-track Kyoto approach is currently in real danger of permanently alienating the very industrial sector that will be needed to implement any reasonable climate change plan in the future. This poll reveals that large manufacturers in Ontario are mystified as to why Prime Minister Chretien has pushed ahead without their support. 

The Varying Sun & Climate Change

by Willie Soon &
Sallie Baliunas

He had been Eight Years upon a Project for extracting Sun Beams out of Cucumbers, which were to be put into Vials hermetically sealed, and let out to warm the Air in the raw inclement Summers.

—“A Visit to the Grand Academy of Lagado,” Jonathan Swift, 1726

Early in the nineteenth century, William Herschel (1738-1822), discoverer of Uranus and one of the greatest minds in astronomy, wondered if the sun could vary in ways that would affect the climate of earth. He did so while uncovering the first proof for “invisible light,” or infrared radiation, through an ingenious study of the solar spectrum.

Starting around late 1610, Galileo Galilei in Italy, Johann Goldsmid (or Johann Fabricius) and his father in Holland, Thomas Harriot in England, and Christoph Scheiner in Germany, had begun recording the dark sunspots on the disk of the sun through early telescopes. The *maculae* could emerge, evolve in shape, migrate across the disk of the sun as they were carried by rotation, and disappear. The nature of sun-

spots would remain mysterious until the twentieth century.

By Herschel’s time, 200 years later, it had been seen that the quantity of sunspots on the solar disk varied. Herschel examined available historical records and noted periods of sustained high numbers of sunspots, and also periods of low numbers of spots. Herschel speculated in 1801 that when the sun was highly spotted, it “may lead us to expect copious emission of heat and therefore mild seasons,” while few spots suggested “sparse emission of heat” accompanied by “severe seasons” (Herschel, 1801). In order to test his speculation that the observed changes on the sun might affect climate, Herschel turned to records of the price of wheat in England as a proxy for climate, because meteorological measurements were lacking. Herschel imagined that costly wheat would result from “severe seasons,” while the “mild seasons” would moderate the price of wheat. Herschel found in records of wheat prices support for his speculation—five lengthy periods of few sunspots were tied to costly wheat. When Herschel, a first-class, imaginative scientist, presented his carefully-worded report to the Royal Society, Lord Brougham (1778-1868; of the brougham carriage fame) scoffed, and called them a “grand absurdity” for “[s]ince the publication of Gulliver’s

voyage to Laputa, nothing so ridiculous has ever been offered to the world” (*Edinburgh Review*, 1803).

Since Herschel’s report, the nature of the sun and its spots has been refined. High numbers of sunspots appear approximately every 11 years, with few sunspots seen at times between the 11-year peaks. In 1908 at Mount Wilson Observatory, George Ellery Hale (1868-1938) discovered that sunspots were relatively tiny regions of densely packed magnetic fields on the sun’s surface, shaped in large loops, similar to that of one end of a bar magnet’s field lines. In the last two decades, NASA satellites have monitored changes in the sun’s energy output that vary in step with changes in the number of sunspots. The sun’s total energy output is higher at sunspot or magnetic maximum in the 11-year cycle, while the energy output is lower at sunspot minimum. As a result, the amount of energy that the earth receives varies, with slightly more energy received at sunspot maximum than sunspot minimum. According to two decades of satellite measurements, the difference in energy delivered to the earth between sunspot maximum and minimum is a scant one-tenth of one percent.

That variable one-tenth of one percent of the sun’s total energy output, and the long duration of the period of change, are thought to be too small and too

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short in duration to modify the globally-averaged temperature at the earth's surface. At first glance, one might expect that the earth's surface temperature is secure from a variable sun.

However, the measurements of the sun's energy output only extend back two decades. The sun varies more dramatically over centuries. And, as with Herschel's lack of temperature records, researchers lack direct measurements of the sun's energy output over centuries. As Herschel did, modern researchers turn to proxies of the sun's energy output.

As noted above, the sun's total energy output varies in step with changes in its magnetism, as contained in the sunspot record that goes back nearly 400 years since the times of Galileo and those early solar astronomers.

The centuries-long view of the sun differs significantly from that seen in the short, two-decade window afforded by satellites. About 100 years ago, E. Walter Maunder (1851-1928) reawakened the early idea, based on early sunspot sightings, that the sun had displayed unusually low magnetism during most of the seventeenth century. This period of low magnetism, along with the almost total disappearance of sunspots for the extended interval from about 1620 to 1720, is now called the Maunder Minimum.

Information on the sun's magnetism stretching back 10,000 years or so can be derived from measurements of radio-carbon, or carbon 14, in tree rings of old and dead trees. (Another, independent estimate of the sun's magnetic history comes from trace amount of Beryllium 10 (^{10}Be) in ice cores.¹) During the Maunder Minimum, the sun's weak magnetic field allows more energetic charged particles from the galaxy, called cosmic rays, to hit the earth's atmosphere, and create more radiocarbon

and ^{10}Be . The amount of radioactive isotopes in tree rings or ice cores is an inverse indicator of the sun's magnetic field strength. Because satellite measurements suggest that the sun's energy output varies in step with the changes in the magnetic field over decades to centuries, the tree ring and ice core measurements imply that the sun's energy output also changes over decades to centuries. In the last several hundred years, the sun's magnetism has been low in the nineteenth, seventeenth, fifteenth, and fourteenth centuries.

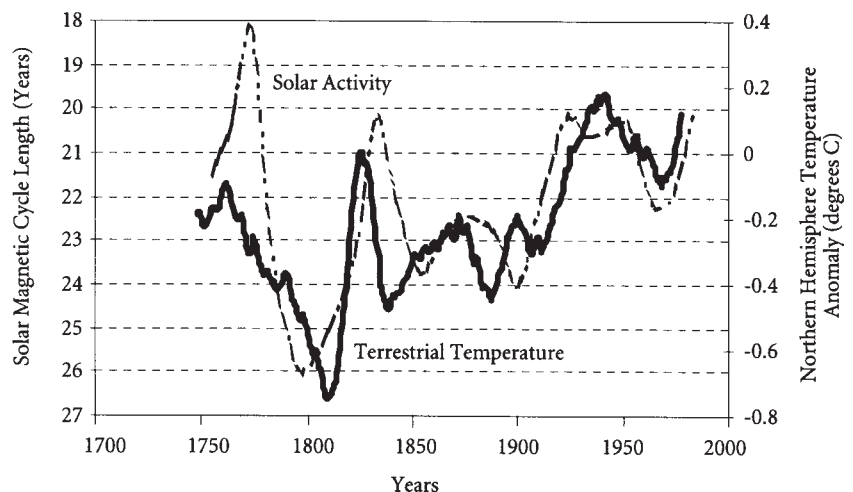
The coldest century of the last millennium, with worldwide evidence for significant advances of glaciers, coincides with the Maunder Minimum of the seventeenth century. Thus, periods of low solar magnetism and cold spells are linked. Gradual changes in the sun's magnetism over decades or longer may correspond with changes in the sun's total energy output, and contribute to

some of the observed climate change in the last millennium.

Figure 1 shows a connection of this type. The sun's increasing and decreasing magnetism over the decades is correlated with terrestrial temperature change. In figure 1, estimates of the northern hemisphere land temperature are shown because global temperature estimates do not go back beyond the mid-nineteenth century; however, the two records agree well when they overlap. Changes in the sun's magnetism, if accompanied by modest brightness changes of a few tenths of a percent, could explain the reconstructed temperature change of the past 200 to 250 years.²

The chart stops around 1980 because the sun's changes are presumed to operate over two decades or longer. Yet the period beyond 1980 is interesting because it corresponds to the period

Figure 1: A Sun-Climate Link?



Changes in the sun's magnetism and in the reconstructed northern hemisphere's land temperature are highly correlated over the last 240 years. The sun's magnetic changes are associated with changes in its total energy output, and may explain the close connection to terrestrial temperatures on time scales of decades to centuries. The changes in the sun's magnetism are represented by changes in the length of the "Hale polarity" or 22-year cycle, which is closely linked to the 11-year sunspot cycle. (Source: Baliunas and Soon, 1995, p. 896.)



when the air's carbon dioxide content rose, and also shows a major surface warming trend. Some say this indicates that carbon dioxide is responsible for the warming of the last 20 years. But for this to be true, the raised carbon dioxide concentration in the air must, according to computer simulations of climate, also produce a warming trend in the low layer of air, from about 2 to 8 km in height. NASA/NOAA satellite- and balloon-borne instruments, however, show little evidence for the human-made warming trend forecast by computer simulations.

Instead, the surface warming, as displayed in figure 1, may be largely natural and result from the varying total energy output of the sun. In this scenario, a persistent and systematic impact of the changing solar light energy may modify the sea surface temperature and evaporate more or less water vapor to the air, and thus, in turn, warm or cool the near-surface temperature through the greenhouse effect (for a short, but accurate, explanation of the greenhouse effect, see our article "Can Climate Models Predict Future Weather?" in the January 2002 *Fraser*

Forum). Other fluctuations of the sun (for example, its speedy wind of charged particles, its magnetic field, and ultraviolet light) may also affect terrestrial climate. For instance, fast-moving particles from the sun may alter the properties of terrestrial clouds or stratospheric ozone, or both, and so affect the pattern of air circulation in the troposphere below, and hence air temperature near the earth's surface.

The cold periods of the last 1,000 years, often seen in conjunction with periods of low magnetism on the sun, may be a clue to one of several factors influencing climate. Those natural factors must be accurately known in order to understand the backdrop against which human-caused climate change would be seen. As new discoveries of natural climate factors are determined, in part from advanced space technology, researchers hope to improve climate forecasts so that they can understand the human-made global climate factor. In the case of the sun and climate change, Herschel may have made an interestingly correct guess, backed with scanty but intriguing evidence.

Note

¹Beryllium 10, or ¹⁰Be, is a cosmogenic isotope (it has a half life of 1.5 million years, instead of the some 5,730 years of carbon 14) of ⁹Be, which is the dominant beryllium element on Earth.

²Brightness refers to the total wavelength-integrated amount of solar light energy. Measurements of the total wavelength-integrated amount of solar light energy or solar brightness changes are done with very precise, satellite-borne radiometers. The difficulties with these measurements are related to the small amount of change and the requirement that the measurements be sustained for at least 10 to 20 years.

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Emission Scenarios & Recent Global Warming Projections

by Ross McKittrick

In the ongoing debates about the nature of the global warming threat there has been a lot of attention paid to some core scientific issues such as natural variability, the validity of climate models, the quality of atmospheric temperature data, the connection between climate and extreme weather, and so forth. One area that is receiving increasing attention is the socioeconomic modeling that underpins the emission projections that in turn gave rise to the famous warming projections of +1.4 to +5.8 degree C that have so alarmed policymakers. This article explains why the emission scenarios are almost certainly too high and ought to be revised as quickly as possible.

A back-of-the-envelope projection

Figure 1 shows the globally-averaged per-person emissions of carbon dioxide in tonnes per capita (tC) since 1960. The average grew steadily from about

0.8 tC to 1.2 tC from 1960 to the early 1970s, and fell thereafter to about 1.15 tC. Since 1970, the average has been just below 1.14.

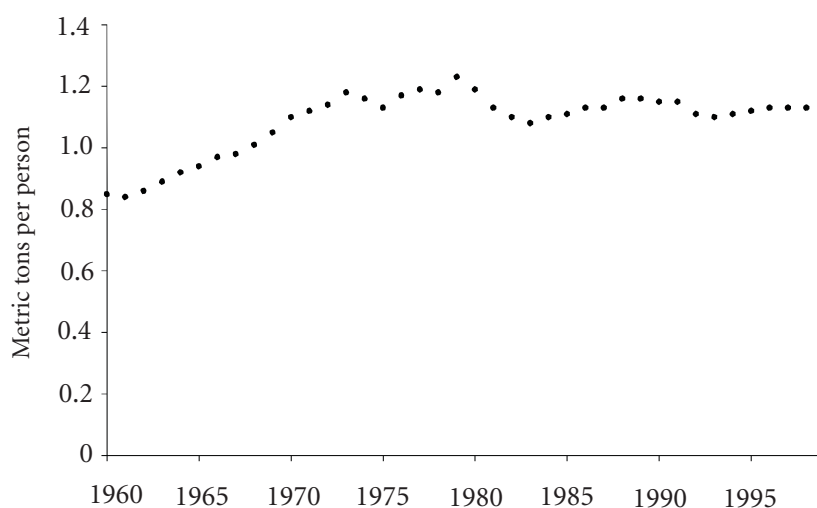
The steadiness of this average during the interval from 1970 to 1999 is quite striking since global per capita income grew during this period. The growth was not evenly felt, especially in developing regions. For instance, Brazil's per capita income rose 80 percent while Nigeria experienced no real growth at all. But in the developed countries there was a

widespread increase in real per capita income: 60 percent in the US, 74 percent in the UK, 77 percent in Canada, 112 percent in Japan, etc. (Easterly and Sewadeh, 2001). Nonetheless, average carbon dioxide emissions per capita did not rise for the world as a whole.

So there is reason to believe that per capita CO₂ emissions are somewhat invariant to economic growth, at least at a globally-averaged level. We could likely rule out, for instance, the possibility that per capita emissions will exceed 2 tC in the next few decades.

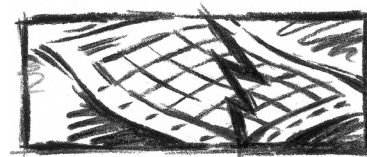
Currently there are about 6.1 billion people in the world. The United Nations currently projects world population will reach about 9.3 billion persons by 2050 (UN, 2002). Population projections have tended to fall because fertility rates are dropping more quickly than demographers expected in the 1970s and '80s. But taking this projection as given, if CO₂ emissions per capita are 1.14 tC for the next 50 years, that would imply total global emissions of 10.6 billion tC by 2050. If emissions per capita range from 1.09 to 1.31 tC by

Figure 1: CO₂ Emissions in Tonnes Carbon Equivalent per Capita



Source: Marland *et al.* (2002).

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2050, the total emissions range will be 10.2 to 12.2 billion tC.

The official projections

For the purposes of the Third Assessment Report of the Intergovernmental Panel on Climate Change (IPCC, 2001), a set of emission scenarios were developed in the *Special Report on Emission Scenarios* or SRES (IPCC, 2000). The emission scenarios were developed based on the work of “storyline” teams that wrote scenarios about possible future states of the world as of 2100, then devised growth paths that would lead to those future outcomes. The scenarios thus developed were dated to begin at 1990 and run to 2100. Table 1 shows the range of emissions using UN population projections and a 1.1 to 1.3 assumed tC emissions per capita figure, compared with the emissions projected by the SRES group, at years 2020 and 2050.

The first column shows the central UN population projection in billions. The second column assumes per capita emissions of 1.1 tC to 1.3 tC and shows the implied range of emissions from fossil fuel use, in billions of tonnes. In 2020 these estimates are below 10 gigatonnes. The numbers from the 6 main SRES (called “Marker”) scenarios range from 9.0 to 12.1 gigatonnes, implying per capita emissions will rise to between 1.2 and 1.6 tonnes per person. For the whole of the 1970 to 1999

period, emissions per person exceeded 1.2 tC only once, in 1979 (reaching 1.23). The SRES projects that by 2020 the average annual emissions per person will be, at a *minimum*, 1.2 tC from fossil fuel consumption.

By 2050, the SRES is projecting emissions per capita will be even higher, between 1.2 and 2.5 tonnes per person. This would require a sharp departure from what has been observed historically. If, however, the pattern over the previous decades persists, emissions will fall in the range of 10.3 to 12.1 gigatonnes.

Implications for climate forecasts

These sorts of calculations matter because the SRES emission scenarios were used as inputs for climate models in the recent Third Assessment Report of the IPCC. The famous conclusion from that report was the forecast increase in the “global temperature” from +1.4 to +5.8 degrees C.

In *Taken by Storm* (Essex and McKittrick, 2002), we explain at length what is wrong with the notion of a “global temperature.” To begin with, there is no such thing. There are, instead, statistical indexes constructed by averaging some highly processed temperature observations, but such indexes have no clear physical connec-

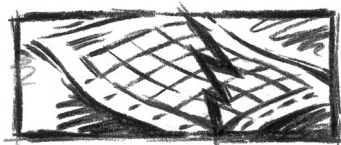
tion to climate. However, the important point here is that the low end of the emission scenarios is the only one that looks plausible, and its “warming” range is very small, about 0.1 degree C per decade. The attention to the IPCC report focused on the upper end of the warming forecast. It is obvious, though, that the emission figures are unrealistically high at the upper end. If the economic growth of the past three decades did not cause per capita emissions to rise at all, it is unlikely that growth over the next few decades could cause global per capita CO₂ emissions to suddenly double. It is not impossible, of course, but it would require quite a change in the way many economies function. If we rule out this doubling, much of the warming range presented in the Third Assessment Report is in doubt.

To the extent that we can evaluate them, the SRES Marker scenarios are known to be overstated already. For example, they assumed global coal consumption would rise between 4 and 31 percent over the 1990s, whereas actual consumption fell by over 10 percent during this period. The SRES scenarios predicted fossil fuel-based CO₂ emissions of 6.9 billion tonnes as of 2000. But observed emissions in 1999 were just under 6.5 billion tonnes (Marland *et al.*, 2002) and there has been no net emissions growth since 1996.

Note that the lowest of the SRES Marker scenarios implies 1.2 tC per person to be emitted as of 2050. Even this may be an exaggeration. In the summer of 2002, economist Dr. Ian Castles, former Chief Statistician for Australia and now a Fellow of Australian National University, wrote a letter to the Chairman of the Intergovernmental Panel on Climate Change, Dr. Rajendra K. Pachauri, raising some concerns about the SRES scenarios. Dr. Castles had looked at the SRES methodology and concluded that

Table 1: Comparison of Emission Scenarios using Relatively Steady per Capita Emissions versus SRES Projections

Year	UN Population Projection (billions)	Range of emissions assuming 1.1 to 1.3 tC per capita (billion tonnes carbon)	SRES Marker scenario projected range (billion tonnes carbon)	Implied per capita emissions under SRES range
2020	7.579	7.6-9.9	9.0-12.1	1.2-1.6
2050	9.322	10.3-12.1	11.2-23.1	1.2-2.5



the IPCC had made material errors in their projections. They had gone about the scenario constructions backwards. They had computed some ratios of developed country- to developing country-incomes as of 2100, then worked backwards to figure out what growth rates needed to be assumed between now and then in order to get there. These growth rates then determined the emission paths.

Unfortunately, the SRES team used cross-country comparisons based on market exchange rates rather than Purchasing Power Parity (PPP) rates. Exchange rates tend to amplify cross-country differences. For instance, the average income in Canada in 1998, converted to US dollars using market exchange rates, was about \$19,600, compared to about \$486 for Pakistan—a 40:1 ratio. But local prices in Pakistan are not as high as they are in the US, so income in US dollars would go further in Pakistan. On a PPP basis, income in Canada was only about 16 times that in Pakistan. Consequently, the amount of growth needed in Pakistan to converge towards Canadian real income (on a PPP basis) would be much lower than that implied using exchange rate-based comparisons.

Dr. David Henderson, former Chief Economist of the Organization of Economic Cooperation and Development also voiced concern over these exaggerated growth scenarios. In a letter to Pachauri in October 2002, he called upon the IPCC to review “the whole scenario exercise” since the famous warming forecasts are put into doubt if the underlying emission scenarios are wrong. In their correspondence with the IPCC, Castles and Henderson have focused on the B1 scenario, showing how the use of market exchange rates rather than PPP-based comparisons leads to untenable growth projections at rates

more than double those observed historically. Yet the B1 scenario yields the lowest emissions path as of the end of the twenty-first century. If it is overstated, the whole body of conclusions in the Third Assessment Report are in doubt.


Another group of emissions forecasters are at the Massachusetts Institute of Technology in the MIT Joint Program on the Science and Policy of Global Change. A recent paper from this group and coauthors elsewhere (Webster *et al.*, 2002) projects a distribution of emission scenarios, with median emissions out to 2050 tracking the lowest of the IPCC SRES group. John Reilly of MIT’s Joint Program commented recently (Corcoran, 2002) that the SRES exercise was “in my view, a kind of insult to science” and the method was “lunacy.” He noted that the MIT lab refused a request from the SRES team to let their models be “tweaked” to support the IPCC scenarios.

Beyond 2050, anything can happen. Reilly and coauthors find in their models that if some current trends continue, then emissions could be in the range projected by the IPCC at the end of the century. By contrast, Chakravorty *et al.* (1997) have argued that market mechanisms must be better taken account of in these models, because technical substitution possibilities will drive fuel consumption. In particular, if fossil fuel prices follow what economists call the “Hotelling rule” (increasing, on average, at a rate equal to the real interest rate), and alternate energy sources like solar cells continue to decline in price at even half the observed historical rate, global fossil fuel use will drop to zero by the end of the century. They conclude that global warming is a short-run problem, and beyond a planning horizon of 100 years “the problem declines over time under any reasonable scenario of technological change.”

Conclusions

There are clear problems with the SRES scenarios. IPCC Chairman Dr. Pachauri raised the matter at a meeting of the IPCC Bureau in December 2002, and has asked Castles to attend the next Bureau meeting in January to make a further presentation on the matter. For the sake of providing more reliable future projections, we ought to hope that the IPCC takes seriously the concerns being raised, and implements measures to correct the apparent exaggerations in the emission projections.

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A Constitutional Firewall Against Kyoto

by Sylvia LeRoy

"It is imperative to take the initiative, to build firewalls around Alberta, and to limit the extent to which an aggressive and hostile federal government can encroach upon legitimate provincial jurisdiction."
—From the *Alberta Agenda*, written by six prominent Calgary academics in January 2001.¹

It has been two years since 6 Calgary academics, inspired by the Prime Minister's "tough love" campaign for the West leading up to the 2000 general election, penned an open letter to Alberta Premier Ralph Klein urging him "to build firewalls around Alberta," and reaffirm the province's authority in areas over which it has jurisdiction. The letter laid out an "Alberta Agenda" that called for the province to reclaim its legitimate jurisdictions under the Constitution of Canada by having Alberta opt out of the Canada Pension Plan, collect its own income tax, create its own provincial police force, reaffirm provincial responsibility for health care, and use the "duty to negotiate" described in the Supreme Court's 1998 *Quebec Secession Reference* to force Senate reform back on the national agenda.

While Premier Klein responded coolly to the letter, arguing that "the sense of defeatism underlying the notion of building a 'firewall' around this prov-

ince is unnecessary," (Klein, 2001) the aggressive and hostile manner with which the federal government approached the ratification of the Kyoto Accord at the end of 2002 has given the strategy broad new appeal.

Indeed, Alberta's Bill 32, the *Climate Change and Emissions Management Act*, can perhaps best be described as a constitutional firewall against Kyoto. Introduced into the Alberta legislature on November 19, 2002—two days before the federal government unveiled its *Climate Change Plan for Canada*—Bill 32 provides framework legislation for a climate change plan of Alberta's own.² Moreover, the bill clearly stakes out the province's ownership of natural resources, defined to include both carbon dioxide and methane, claims property rights to carbon sinks, and ultimately sets the terms of reference for what could turn into an ugly constitutional battle with Ottawa. Reading Alberta's proposed climate change legislation in light of the federal plan gives us a preview of the constitutional arguments we may eventually hear.

Ratification versus implementation

Ratification of the Kyoto Accord, an action well within the federal govern-

ment's constitutional powers, was easily pushed through the House of Commons on December 10 in a confidence vote usually reserved for money bills. It was a simple and superficial move, an empty rhetorical flourish to accompany the Liberal government's professed commitment to the environment.

Implementation, on the other hand, will be nasty, brutish, and long, requiring new federal legislation and the cooperation of the provinces whose jurisdiction will be infringed (LeRoy and Frank, 2002). While the federal government has been notoriously slow to give any indication of what such legislation might look like, the new *Climate Change Plan for Canada* makes it clear it has yet to arrive at a solution that avoids placing an undue burden on Alberta's oil and gas economy.

Implementation of the Kyoto Accord will be nasty, brutish, and long.

The federal plan

The federal government's *Climate Change Plan for Canada* is supposed to explain how Canada will meet its Kyoto target of a 6 percent reduction of greenhouse gas emissions by 2012. Claiming that actions already underway will

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reduce emissions by 80 megatonnes (MT) of Canada's 240 MT target, the November plan looks to achieve an additional reduction of 100 MT using various tax, spending, and regulatory measures in five key areas (Government of Canada, 2002, p. 5).

Large industrial emitters will bear the burden for almost half of new reductions, cutting emissions by 55 MT through covenants with mechanisms to limit losses and costs, and through emissions trading. Because such emissions trading schemes force companies to buy domestic offsets and international permits as a new cost of doing business, the scheme has been equated with a carbon tax. About another 15 MT will be addressed through the technological, infrastructure, and efficiency gains in other industrial emissions and another 20 MT reduced by improved energy efficiencies in buildings. The remaining 10 MT will be addressed through the purchase of international permits. One quarter (60 MT) of Canada's commitment remains unplanned for (Government of Canada, 2002, p. 11).

According to the federal government's own press release, these are "the best ideas to come out of consultation and collaboration." These "best ideas," however, fall short of providing the substance of legislation that could both meet Canada's Kyoto commitments and withstand a constitutional challenge from the provinces.

Ironically, it is the federal government itself that has given the most damning testimony to the international treaty's empty symbolism. Recognizing that the two-year time frame may be too short to allow for needed technological devel-

opment and strategic capital turnover implicit in their plan, "the government is prepared to discuss an approach whereby a pre-approved commitment to larger emissions reductions over the somewhat longer term could be accepted in lieu of reductions in the nearer term" (Government of Canada, 2002, p. 32).

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This reinforces what appears to be the prime minister's confusion over whether ratification of the treaty obliges Canada to actually hit its targets, or just develop a plan by 2012, evidenced in his September statement that "the development of a plan will take 12 years. Ten years... We have a 10-year period to develop the appropriate plans to meet these international obligation that the Canadians want us to commit to" (Toulin, 2002). In other words, the government has ratified Kyoto, but does not necessarily intend to comply with its terms within the prescribed time frame.

Pre-emptive strike

Alberta, at least, has been more transparent in its climate change planning. Alberta's *Climate Change and Emissions Management Act* will set out in legisla-

tion the province's commitment to reducing greenhouse gas emission intensity by 50 percent below 1990 levels by the 2020, and lays out the legal framework to support its action plan.

The heart of the bill, however, is the reaffirmation of provincial ownership of natural resources, protected under section 92(a) of the Constitution of Canada. As the preamble to the bill plainly states: "the Government of Alberta owns natural resources in Alberta on behalf of all Albertans and manages the exploration, development, and production of renewable and non-renewable resources in Alberta." It goes further, stating that "carbon dioxide and methane are natural resources, are not toxic under atmospheric conditions and are inextricably linked with the management of other renewable and non-renewable natural resources, including sinks."

The latter point is significant. Section 8 of the *Climate Change and Emissions Management Act* affirms property rights in carbon sinks (areas and agricultural lands said to absorb greenhouse gasses), vesting title and benefit to the owner of the land to which the sink is affixed or of which it forms a part. These sinks account for 38 MT of the federal government's *Climate Change Plan*, putting any attempt by the federal government to regulate them directly in conflict with Alberta's legislation.

The federal government has promised that no region will bear an unreasonable burden of the costs of implementing Kyoto. Under Alberta's *Climate Change and Emissions Management Act*, "the determination of undue burden must be made by the jurisdiction accepting the burden, as a fundamental matter of responsible government." In simple terms this commits the Alberta government to challenging—if necessary, in court—any federal plan that fails this test.

A constitutional firewall


Two years ago, Ralph Klein called the firewall strategy “defeatist.” Others called it inflammatory—separatism in disguise. Given the federal government’s approach to Kyoto ratification, however, it looks more like common sense. As Ken Boessenkool, one of the authors of the Alberta Agenda put it, “good firewalls make good policy” (Boessenkool, 2002). While politics, rather than law, will no doubt play the pivotal role in any constitutional challenge of Kyoto, the importance of Alberta’s reaffirmation of its provincial jurisdiction under the Constitution of Canada should not be underestimated.

Notes

¹Stephen Harper, Tom Flanagan, Ted Morton, Rainer Knopff, Andrew Crooks and Ken Boessenkool.

²*Climate Change and Emissions Management Act* (2002), Bill 32. The Bill passed second reading one week after its introduction, on November 26, 2002.

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Canada’s Unlikely Freedom Fighters

T by Barry Cooper

hirteen shackled men entered the dark confines of the Lethbridge Correctional Centre early in December 2002. They were not dangerous criminals who had violated the laws of society or the morals of civilization as we know it. Their crime had taken place some six years earlier. They had taken grain, which they had grown on their own farms, and loaded it onto their own trucks. Then they drove across the border into Montana, where some of them sold their grain to private American dealers at market prices. Jim Chatenay, from Red Deer, donated his grain to a local Four-H Club.

Whether they sold their wheat or gave it away made no difference: by removing wheat or barley used for human consumption from Canada, on their own initiative, they were in violation of the Customs Act. But the farmers, the RCMP, and customs officers on both sides of the border know well the Customs Act is a front. The real crime of the 13 men was to have defied the bureaucratic sway of the Canadian Wheat Board, the last remnant of what was once total wartime control of the market in agricultural products.

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Unlike farmers in Ontario, western Canadian wheat and barley producers are subject to a unique and unaccountable regulatory regime. Alone among Canadian farmers, prairie wheat and barley producers must, by law, market their product through the Canadian Wheat Board (CWB). They have no choice. Even though they plant the crops, nurture them, harvest them, and assume the many risks associated with raising grain, the second it moves through the farm gate, it effectively belongs to the CWB. This happens nowhere else in Canada. The Wheat Board, which began as a voluntary marketing board during the late 1930s, has evolved into a compulsory monopoly run by and for the people who staff it.

Since the late 1960s, the CWB has been exempt from Parliamentary oversight. Like CSIS, the spy agency, the CWB is also exempt from the Access to Information Act, and farmer-adversaries of the Board are compelled to pay to keep its operations secret. What little information trickles into public regarding CWB activities comes from Access to Information requests served on allied departments.

Andy McMechan is a Manitoba farmer and member of an organization called Farmers for Justice. In 1996 he served 155 days in jail for selling his own wheat in North Dakota. More recently, he



Farmer – Activists

obtained some 40,000 pages of information dealing with Canada Customs under the Access to Information Act. Even though 10,000 of the pages he requested were blanked out, one Customs memo detailed that \$1.5 million was spent between July 1994 and April 1996 for extra personnel “to deter offenders, mainly farmers associated under the name Farmers for Justice” (McLean, 2002, p. 11). Among other things, Canada Customs purchased body armor (\$17,000), secure radios (\$184,000), and several types of surveillance cameras (\$40,000). Clearly they were mounting a major operation against people whom they considered dangerous.

In the event, both the Manitoba and the Alberta farmers had their vehicles seized without serious incident. The legality of those seizures, however, remains uncertain. The Opposition Wheat Board critic, Maurice Vellacott, noted in Parliament that ministerial directives and the opinion of the trial judge in the McMechan case, namely that the intent of Parliament was to ensure harmony between the Wheat Board Act and the Customs Act, is not law. Yet it was the basis for issuing an order to another farmer, Ken Dillen, a former NDP MLA in Manitoba, compelling him to forfeit his truck to Canada Customs. Crown Prosecutors were then in a position to declare that they had the necessary jurisprudence to convict and seize the vehicles of the “Lethbridge Thirteen.” Moreover, most of those trucks are still in customs compounds because they were apprehended under what is known as a “civil seizure.” Civil seizures are not appealable to the courts, but to the Minister of National Revenue, who has refused to rule whether the seizures were legal or not. And so the vehicles remain out of service.

It is hard for most Canadians to understand that for these entrepreneurial prairie farmers the implications of the Wheat Board monopoly are offensive enough that they are willing to go to jail rather than pay what they consider an arguably illegal and certainly unjust fine. Some of them have compared their actions to the acts of civil disobedience undertaken 50 years ago in the American South. On leaving the Lethbridge jail John Turcato, who farms near Taber, Alberta, observed, “I think that there is a time and a place for peaceful demonstration and civil disobedience. My hope is that the next time the need arises, there are not 13 but 1,300 or 13,000” (Scott, 2002, p. B-3).

The Canadian Wheat Board has changed in many ways over the past few years as a result of civil disobedience and litigation. For example, the Board now operates with seven farmer representatives elected to its 15-person governing body. Wheat Board supporters claim recent changes have made the board more responsive. They also point to the referenda conducted during the late 1990s by the federal government. A slim majority of wheat and barley growers voted to market their grain through the board. And, of course, the Wheat Board claims that it can command premium prices because it is a single-desk seller.

In fact, there has never been any public audit of the CWB, so no one knows whether its secret prices benefit anyone other than the officials whose job it is to negotiate or set them. Secrecy does, however, intensify the suspicions of critics. Besides, the economic effectiveness of the monopoly is secondary to its compulsory nature. In no other sector of Canadian society or of the Canadian economy would a majority vote of manufacturers, of merchants, of poets, of fishers, or of any other category of peo-

ple, bind all members of the group against their will. Democracy has never meant the tyranny of the majority, especially a manipulated majority voting in gerrymandered constituencies that cross provincial boundaries. In practice, the 13 jailed farmers are eloquent witnesses to the continuing power of the CWB.

Ike Lanier is 72. He was bailed out of the Lethbridge jail by his wife after she couldn't sleep, so worried was she about her husband. “When your wife decides to spring you,” he smiled, “why fight it?” He added, more soberly, “at night, your cell door clangs shut with the lights left on. No phone. You can't go anywhere. What we were protesting became quite obvious. It became a very tangible thing. Freedom.”

This compulsory and geographically discriminatory monopoly is probably the last fundamental human rights issue that remains largely ignored by governments, by the courts, and by the media. An individual who is determined to grow wheat or barley on the prairies is an economic serf whether or not he or she favours serfdom. The Wheat Board issue is not about to disappear because it not simply about choice. Nor is it about secret prices set by unknown bureaucrats, or what benefits the farmer and what does not. The basic issue is whether or not prairie grain producers can be responsible citizens, and raise and dispose of their own crops as they wish. As Ike Lanier said, it is about freedom.

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Weak Economic Freedom Haunts Canada

by Amela Karabegovic & Fred McMahon

Canadians are poorer than they need to be because of a lack of economic freedom. That's the conclusion of *Economic Freedom of North America*, the first comprehensive economic freedom rating for US states and Canadian provinces.

The study, prepared by Fraser Institute researchers, was released last month by the Institute in Canada and the National Center for Policy Analysis in the United States. It will also appear in a special issue of the *European Journal of Political Economy* devoted to economic freedom.

The index measures the extent of restrictions on economic freedom imposed by governments in North America. Economic freedom is freedom to make personal choices and use private markets to answer the basic economic questions: what is to be produced, how much is to be produced, and for whom is production intended?

The study uses two indices, sub-national and all-government. The sub-national

index measures government restrictions on economic freedom at a state/provincial and local/municipal level. The all-government index measures the restrictions of all three levels of government—federal, state/provincial and local/municipal.

Of the Canadian provinces, only Alberta consistently scores well in economic freedom. It gets a middling rank in North America and enjoys a middling level of prosperity. Ontario is the second freest Canadian province, but in 2000, the most recent year for which data are available, it scores below all states on the all-government index, and ahead of only West Virginia on the sub-national index. As a result, Ontario is poorer than all US states except for West Virginia, Mississippi, and Montana, which also score very poorly on economic freedom.

Quebec and PEI are the least free provinces. Although Quebec enjoys the same benefits of geography and resource wealth as Ontario, Quebec's even lower level of economic freedom has left it economically well behind Ontario and even the poorest, most disadvantaged US states.

As a result of low levels of economic freedom, Canadian provinces have experienced low levels of economic activity and economic growth in their jurisdictions.¹ In *Economic Freedom of North America*, econometric testing indicates that economic freedom has a substantial effect on economic activity and growth.² However, even a simple graphic demonstrates the vital link between economic freedom and prosperity. Figure 1 splits North American jurisdictions into quintiles at an all-government level where "Bottom" stands for jurisdictions in the lowest fifth of the economic freedom ratings. As the figure indicates, more economically free jurisdictions have higher per capita incomes. Not surprisingly, 9 out of the 12 jurisdictions in the bottom quintile are Canadian provinces—all provinces except Alberta are in this quintile. The jurisdictions in the bottom quintile have an average per capita GDP of \$31,265, whereas the 12 freest jurisdictions in North America (Top 20% quintile) have an average per capita GDP of \$55,337.

What is it that makes Canadians less economically free and thus less prosperous than Americans? There are three areas that this study looks at when measuring economic freedom: 1) size of government, including government expenditures and transfers relative to GDP; 2) takings and discriminatory taxation; and 3) labour market freedom, specifically, labour market rigidity, i.e., whether or not there are minimum wages, how many licensed occupations there are, and government employment relative to total employment.

Canadian provinces are at or near the bottom in all three areas at both the

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all-government and subnational levels, which implies that Canadian provinces—except Alberta and, to a lesser extent, Ontario—have consumed and transferred more resources, imposed higher tax rates, and created more rigid labour markets than have the US state governments.³

More alarming is the fact that provinces with relatively high levels of economic freedom within the Canadian context are not positioned to take full advantage of that freedom due to Canada's system of fiscal federalism.⁴

This explains a puzzle in the econometric results. The positive impact of economic freedom on Canadian provinces, while substantial, is less than the impact of it on US states. Econometric testing shows that a one-point increase in economic freedom on the all-government index's 10-point scale would increase a province's prosperity by \$3,800 per person. But a one-point increase in economic freedom in a US state increases prosperity by over \$10,000 per person, nearly three times the effect in Canada. Provinces and states can achieve a one-point increase in economic free-

dom by reducing taxes and government spending and by making their labour markets more flexible.

Fiscal federalism mutes the impact of economic freedom by, in effect, transferring money from economically free to economically unfree provinces. If, for example, Alberta decreased its taxes, its economic freedom would increase, as would its GDP. However, because of the increase in GDP, Ottawa would transfer more tax money out of Alberta to "have-not" provinces, which are typically have-not because they have limited their economic freedom.

Even worse, provincial politicians are rewarded for suppressing economic freedom. Low economic freedom weakens the provincial economy and attracts a rich menu of federal transfers controlled by the policymakers who created the problems in the first place. This is like handing out prizes for bad policy.

Worldwide economic research shows that domestic policy—not outside help or resource wealth—is the key to building prosperity and jobs. Regions across the United States, Europe and Japan

that were once lagging are now catching up with old centers of affluence, and often surpassing them—much more quickly than Canada's have-not provinces.

Imagine a school where parents were fined if their children worked hard, and where they received a cheque from the school board when their children didn't do their homework. That's the perverse structure of fiscal federalism. Provinces with good economic policy are fined. Provinces with bad policy get a cheque.

Notes

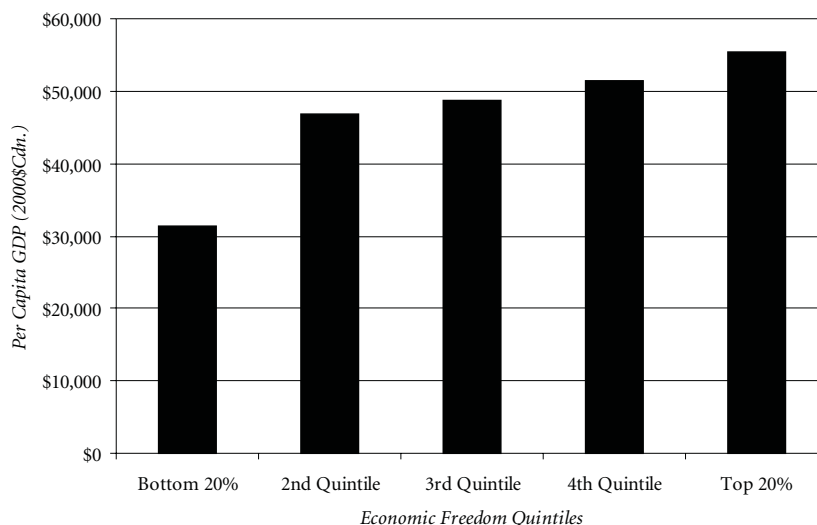
¹ A number of papers that link economic freedom and prosperity on an international basis can be found at www.freetheworld.com.

² See *Economic Freedom of North America* at www.freetheworld.com.

³ Canadian data were adjusted to take into account the fact that Canadian provinces and US states have different fiscal responsibilities (see *Economic Freedom of North America*).

⁴ A discussion of fiscal federalism can be found in McMahon, 2000b, ch. 3. The US fiscal structure is discussed in McMahon, 2000a, ch. 4.

Figure 1: Economic Freedom Levels and Per Capita GDP



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January

QUESTIONS ANSWERS

by Niels Veldhuis

Q: Which programs account for the majority of federal government spending? How have the spending priorities of the federal government changed over the past 30 years?

A: In 2001/02, social services accounted for 30.7 percent of total federal government spending, by far the largest share among the programs of the federal government. Statistics Canada's Financial Management System (FMS) defines social services as, "actions taken by a government to offset or forestall situations where the well-being of families is threatened by circumstances beyond their control." It includes Old Age Security (OAS), the Guaranteed Income Supplement (GIS), Employment Insurance (EI), Worker's Compensation, Family Allowances, Veterans Benefits, welfare, and other social assistance services. The percent of federal expenditures allocated to social services has remained remarkably stable over the past 30 years, increasing from 29.9 percent in 1971/72 to 32.2 percent in 1991/92 and decreasing to 30.7 percent in 2001/02.

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The percent of federal expenditures for debt charges (interest payments on government debt) shows the most significant change over the past 30 years, accounting for over twice as much of total spending in 2001/02 as it did in 1971/72 (22.3% versus 11.0%). Over the last decade, however, the portion of federal spending on interest payments has decreased from 24.4 percent in 1991/92

to 22.3 percent in 2001/02, largely due to the decrease in gross federal government debt by \$11.8 billion since 1997.

The share of federal government spending devoted to the protection of person and property, costs associated with national defense, the courts of law, correction and rehabilitation services, policing, and firefighting, has fallen

**Table 1: Composition of Federal Government Spending
(percentage of total)**

	1971/72	1981/82	1991/92	2001/02
Protection of Persons and Property	12.0	9.4	9.6	10.9
Transportation and Communication	3.9	2.9	2.7	1.1
Health*	9.2	6.0	4.8	1.2
Social Services	29.9	27.6	32.2	30.7
Education	4.7	3.4	3.3	2.6
Debt Charges	11.0	19.0	24.4	22.3
General purpose transfers to other levels of governments	6.9	6.7	5.7	15.4
Other	22.4	25.1	17.3	15.9
Total	100.0	100.0	100.0	100.0
Total Expenditures (millions of 2001 dollars)	85,893	156,875	199,378	181,902

*Note: Federal health expenditure drops sharply 2001/02 due to changes the structure of federal funding; most federal health spending now shows up as transfers to provinces.

Sources: Statistics Canada, Public Finance Historical Data 1965/66 - 1991/92, cat. # 68-512; Statistics Canada, Public Institutions Division, FMS accounts; calculations by the author.



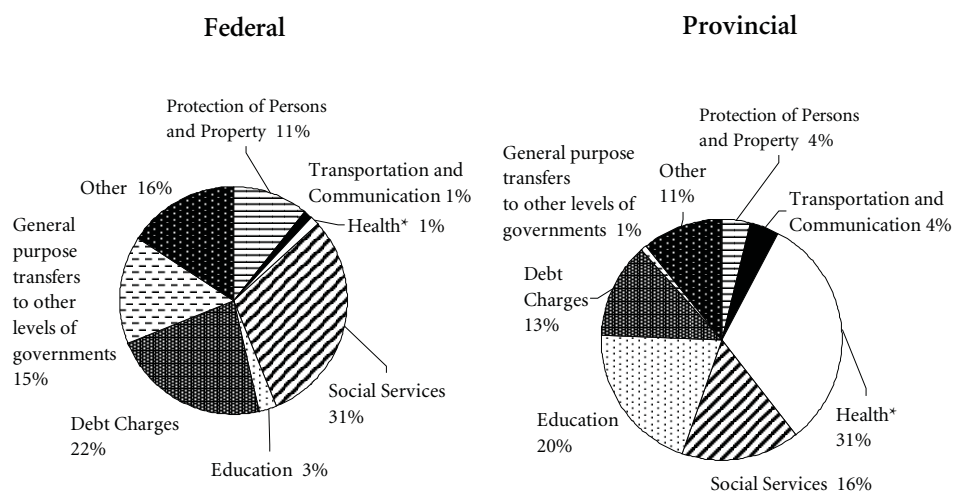
from 12.0 percent in 1971/72 to 10.9 percent in 2001/02. Federal health spending, including all expenditures related to hospital and medical insurance programs, disease control and prevention, and laboratory services, was 1.2 percent of total spending in 2001/02, a sharp drop from 4.8 percent in 1991/92. This decrease was caused by a change in the cost-sharing system of health programs by federal and provincial governments. Since the introduction of the Canada Health and Social Transfer (CHST) in 1995/96, most of the federal health spending shows up as flexible transfers to the provinces. Federal transfers to other levels of governments increased dramatically from 5.7 percent to 15.4 percent of federal spending in the past decade. Spending on social services and education were also affected by the CHST, although to a lesser degree. In 2001/02, spending on social services, health, education (including elementary, secondary and post secondary as well as skills retraining and upgrading), and general purpose transfers to other levels of government accounted for 49.9 percent of total federal expenditures, down from 50.7 percent in 1971/72. Table 1 shows the spending priorities of the federal government from 1971/72 to 2001/02.¹ The January graph shows the composition of federal spending for 2001/02.

Q: Which programs account for the majority of provincial government spending? How have the spending priorities of the provincial governments changed over the past 30 years?

January

GRAPH

Government Spending Priorities, 2001/02



Source: See table 1.

Table 2: Composition of Provincial Government Spending (percentage of total)

	1971/72	1981/82	1991/92	2001/02
Protection of Person and Property	3.3	3.3	3.9	3.8
Transportation and Communications	9.8	7.1	5.1	4.1
Health*	26.2	24.9	26.8	31.6
Social Services	12.4	13.7	17.9	15.9
Education	26.9	21.9	20.0	20.1
Debt Charges	6.6	8.6	12.1	13.0
General purpose transfers to other levels of governments	2.1	2.2	1.4	0.6
Other	12.8	18.3	12.8	10.9
Total	100.0	100.0	100.0	100.0
Total Expenditures (millions of 2001 dollars)	82,450	143,685	195,414	213,148


Sources: Statistics Canada, Public Finance Historical Data 1965/66 - 1991/92, cat. # 68-512; Statistics Canada, Public Institutions Division, FMS accounts; calculations by the author.

A: Table 2 shows the spending priorities of the provincial governments from 1971/72 to 2001/02. Spending on health accounts for the largest share of provincial expenditures in 2001/02 at 31.6 percent, up from 26.2 percent in 1971/72. As with the federal government, the most significant growth in the percent of expenditures occurred in debt charges. While the proportion of provincial budgets allocated to servicing the debt is smaller than that for the federal government, debt charges as a share of the provincial budget has grown as fast as have debt charges in the federal budget, nearly doubling from 6.6 percent in 1971/72 to 13.0 percent in 2001/02. Expenditures on the protection of people and property as a percent of provincial spending have remained relatively stable during the past 30 years, increasing from 3.3 percent in 1971/72 to 3.8 percent in 2001/02. Spending on social services, health, and education accounted for 67.6 percent of total provincial expenditures in 2001/02, up from 65.5 percent in 1971/72. The January graph shows the composition of provincial spending for 2001/02.

Note

¹The "Other" category includes spending on general services, resources conservation and industrial development, housing, the environment, foreign affairs and international assistance, regional planning and development, recreation and culture, research establishments, and labour, employment, and immigration.

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Changing Fisheries Management for the Better

by Laura Jones

Headlines shouting about fisheries fiascos in Canada are nothing new. The collapse of cod stocks on the East coast and bickering over salmon allocations on the West coast have brought the competence of our fisheries managers into question. But what haven't made the headlines are management changes that have *saved* many of Canada's smaller fisheries. The geoduck (pronounced gooey duck) clam fishery is one such example.

By the late 1980s the geoduck fishery was in serious trouble. To control catches, managers had shortened seasons to the point that fishermen called geoduck a "shotgun" fishery. Despite short openings, actual catches consistently exceeded those allowed by the Department of Fisheries and Oceans (DFO)—in one year by 80 percent (see figure 1). The "shotgun" fishery led to supply gluts and reduced the availability of live product throughout the rest of the year, which meant lower product

prices. Production costs escalated as fishermen put more resources into catching as much as possible during the short season. Fishermen had two other concerns about the short season: safety and foregoing a substantial portion of income if unforeseen circumstances forced them to miss an opening (Muse, 1998, p. 7).

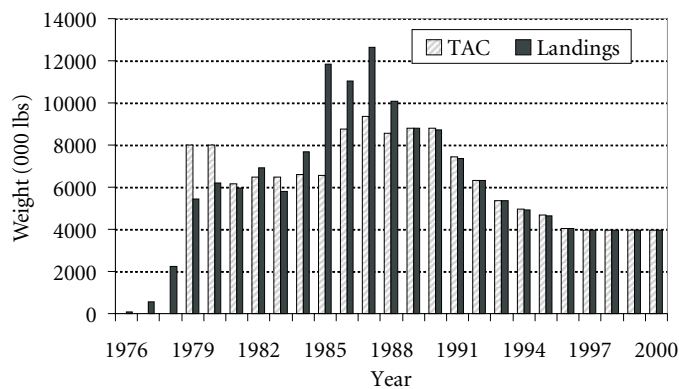
The geoduck fishery's problems were not unique. Fisheries managers in many other Canadian fisheries and around the world were having trouble controlling catches. Fishermen were struggling to make profits in an industry where costs were escalating and product quality and prices were falling. These problems were symptoms of a fundamental management flaw: ignoring the power of incentives.

A brief history of fisheries management clarifies this idea. If there is *no* fisheries management, an obvious problem arises: too many fishermen chase too few fish, which sooner or later depletes stocks. Initially, the geoduck fishery had virtually no management. In 1977,



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Figure 1: Actual Catch and TAC for BC Geoduck (1979-2000) (all weights reported in round weight)



Note: Limited entry was introduced in 1979; individual quotas in 1989.

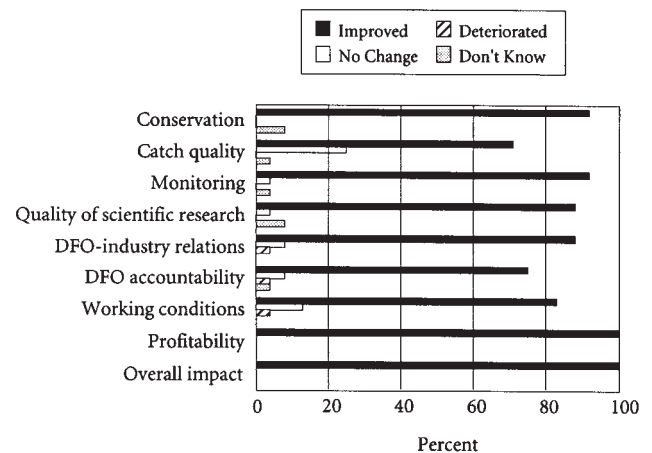
Source: Personal Correspondence with Michelle James, Executive Director of the BC Seafood Alliance, July 5th, 2000 ; for 2000 TAC: F&O 2001, A *Geoduck Management Plan*; for 2000 catch: Underwater Harvesters Association website (www.geoduck.org/).

shortly after the fishery was opened, licenses were available to all comers and there were no catch limits (Heizer, 1999, p. 2). The number of licenses rose quickly under this system from 30 in 1977 to 101 in 1979. Harvests rose even more dramatically—over 5,000 percent—from 97,000 pounds in 1976 to 5,430,000 pounds in 1979 (Heizer, 1999). Without management, there was no incentive to conserve. Each fisherman caught as many geoducks as possible before someone else did.

The next stage in the evolution of many fisheries is the introduction of catch limits, a moratorium on new licenses, and regulations that limit fishing times, fishing techniques, and/or fishing areas. While these ideas sound sensible, they provide only a short-term fix. In the geoduck fishery, DFO introduced catch limits in 1979. In 1980, the number of licenses permitted in the fishery was reduced to 95. These measures initially stabilized catches, but by the mid 1980s actual catches consistently exceeded allowable catches (see figure 1) despite shortened seasons.

Why doesn't controlling the number of fishermen in the fishery work? Because fishermen still operate under the same basic incentive: catch as many fish as possible, before someone else gets them. Regulating effort by shortening openings or implementing gear restrictions doesn't work either. Fishermen have strong incentives to work around new regulations and they are very good at it. If boat lengths are restricted, for example, boats get wider. This type of regulation does, however, introduce a new problem: to catch fish even more quickly during a short opening, fishermen invest in more powerful equipment. This investment, which some refer to as "capital stuffing" is inefficient. It doesn't increase the total number of fish caught in the entire fishery; it just enhances an individual fisherman's ability to catch fish before someone else does. In other words, the same number of fish could be caught more cheaply. In the geoduck fishery, catches continued to increase and continued to exceed allowed catches despite this kind of regulation.

Figure 2: Survey of License Holders on the Effect of IQs on Geoduck Fisheries Management



Note: 22 individuals representing 38 of the 55 licenses in the fishery filled out the survey in 2001.

While these problems are well understood by academics, fisheries managers, and fishermen, many fisheries continue to hobble along from crisis to crisis (and headline to headline) by trying variations of the same management theme. Buying back fishing licenses, for example, was recently done in the salmon fishery. Management of the geoduck fishery, however, followed a different path.

In 1988, the geoduck industry association asked DFO to alter radically the way the fishery was managed by implementing an individual quota (IQ) program. Under the program, the allowable catch is allocated in equal shares to license holders—property rights to the clams are allocated *before* fishermen reach the fishing grounds. The shares can be transferred, but not subdivided (Heizer, 1999). Individual quotas change incentives in fisheries by essentially eradicating the race for fish. If you know how many clams you can catch before unmooring your boat, you are no longer competing with other fishermen to catch as much as possible as quickly as possible.



It has been over 10 years since IQs were introduced in the geoduck fishery, and evidence suggests the fishery has changed for the better. Conservation has improved. In 6 of the 10 years preceding the introduction of IQs, harvests exceeded allowable catches by an average of 30 percent. In the 12 years following the introduction of IQs, harvests exceeded allowable catches in 4 years, but these overages (overage is the technical term in fisheries parlance for exceeding the allowable catch) have averaged less than 1 percent of the total allowable catch (figure 1). The introduction of catch IQs was accompanied by a reduction in catch limits, resulting in fewer geoducks harvested. Monitoring and enforcement have also changed dramatically. Prior to the change in management, DFO's monitoring and enforcement were inconsistent and ineffective (Muse, 1998, p. 17). Once quotas were introduced, geoduck harvesters paid an independent third party, Archipelago Marine Research, to enforce policy, monitor catches at the docks, and enforce proper fishing practices in the remote north coast region, where the DFO had identified compliance violations (Harbo, 2000). Since license holders pay directly for monitoring and enforcement under the individual quota system, they have a strong incentive to ensure its effectiveness.

The fishery became more profitable after quotas were introduced. Prices for geoduck increased, likely as result of longer openings which allowed fishermen to sell more of their product fresh. The increase in geoduck prices increased revenues for geoduck fishermen, despite lower catches. In 1988, the year prior to the introduction of individual quotas to the fishery, industry revenues were approximately \$13 million. The following year under individ-

ual quotas, industry revenues increased to \$16 million. In 2000, revenues reached \$41 million (James, 2000). The increase in profitability was not only due to higher prices, but also to lower fishing costs. According to a 1991 DFO report evaluating the impact of IQs, "cost savings have been identified in the areas of vessel fuel consumption and labour/material used in harvesting (DFO as cited in Muse, 1998, p.12).

The increased profitability of the industry was good news for taxpayers too. It meant that harvesters were willing and able to pay for more of the management costs. Prior to the introduction of IQs, the only fee geoduck harvesters paid was a \$10 annual license to DFO, which, according to Andrew Milne, a Director and former President of the geoduck industry association, was "barely covering the cost of issuing the license, let alone covering the costs of managing the fishery" (Milne, 2000). With the introduction of IQs, industry agreed to pay additional third-party monitoring costs and pay for additional management and research (Muse, 1998, p. 11). In addition, license fees increased from \$10 per year to \$3,615 in 1996 and \$7,345 per year in 2001. Although the amount license holders are contributing to management costs has increased dramatically, exact estimates of DFO expenses on managing the geoduck fishery are unavailable, making it impossible to say whether these fees cover all fisheries management costs. According to Michelle James, Executive Director of the geoduck industry association, a conservative estimate is that industry is covering between 75 and 90 percent of management costs.

The strongest evidence that the management change has been successful comes from fishermen themselves. A survey of individuals representing 38 of the 55

license holders in the fishery revealed that since the introduction of individual quotas, 88 percent believe the quality of scientific research in the fishery has improved, 92 percent believe that overall monitoring in the fishery has improved, 92 percent believe that overall conservation has improved, 100 percent believe that profitability has improved, and 100 percent believe that the overall impact on the fishery has been positive (see figure 2).

Allocating individual fishermen a share of the catch through individual quotas has transformed the geoduck fishery. Prior to the change, the fishery was described by fishermen as a "shotgun" fishery with short seasons, supply gluts, harvests exceeding the total allowable catch, and unsafe fishing conditions. Today, it is considered a model for other fisheries. Harvesters in the industry should be commended for suggesting the management change. The Department of Fisheries and Oceans should be commended for having the vision to implement it.

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The Concept of Social Exclusion

by Chris Sarlo

In recent years in Europe it has become common to hear and read about “social exclusion” rather than about poverty. The basis of this new concept flows out of a strong “entitlement” political perspective. Essentially, the view is that every person has a fundamental right to full participation in society and that any barriers to that full participation must be removed.

On one level, the social exclusion concept can be viewed as merely an attempt to examine a wider range of considerations than just material poverty in the study of human deprivation. On this level, the concept might appear to be a straightforward effort by social scientists to get a deeper understanding of poverty and disadvantage. However, on another level, the concept represents a dramatic break in the way we have traditionally understood the human predicament.

In North America, our laws, relationships, and institutions are based on the notion that people are responsible for their actions and for their outcomes. Your situation and your involvement in society is largely of your own making

and choosing. Personal outcomes are, for the most part, the result of a series of choices made by the person himself over time. In North America, we make our own lives. This viewpoint is not so narrow as to exclude random events and luck playing a role in shaping who we are. However, it emphasizes the importance of personal freedom and personal responsibility as the primary factors in determining where we end up.

The social exclusion perspective, however, is quite different. It says that structures in place in society largely determine who you are. The way we arrange things (our laws, institutions, and norms) may, deliberately or not, exclude some people. Being and feeling a part of one’s society is of central importance to human happiness, according to this view. Therefore, care must be taken to ensure that our social arrangements are structured so that everyone has an equal opportunity to have full participation in society and that everyone has a basic right to it. Any departure from full participation can be viewed as a denial of this basic right. While the term “full participation” is often left undefined, inequality in a range of conditions and capabilities would represent clear evidence of exclusion.

It is important to emphasize that social exclusion may happen even if no person or group is deliberately doing the excluding. It is all, apparently, in the

way we arrange and structure “the system”; in the way we make rules and establish norms. No one is really to blame. In addition, if someone is or feels excluded, it is not due to anything they themselves might be doing. British sociologist Anthony Atkinson points out that social exclusion is something that happens to you rather than something you have chosen for yourself (1998, p. 14). If no one is at fault and exclusion can happen without intent, this clearly puts the state in a central position in terms of amelioration. It has an obligation to remove exclusion and promote inclusion.

While to those who favour markets the philosophical basis of “social exclusion” and the concomitant expansion of the role of the state that is implied is troubling, there are also some practical measurement issues that must be raised. Defining and measuring poverty is difficult enough, but the concept of exclusion gets us into a whole other set of problems. For example, some researchers have suggested that children suffer social exclusion if they have poor relations with peers and feel isolated (recreationally and socially). However, we know that there are myriad explanations for such outcomes. Poor relations with peers might be the result of sadness and withdrawal brought on by parental divorce, absence, neglect, or even abuse. It may have little to do with government cutbacks in areas involving children. Recreational isolation may be the result of the lack of parental oversight relating to limits on television, video games, and other passive activities and the failure by parents to actively promote healthy alternatives in the area of diet and physical activity.

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Extending Government Monopoly Health Care: *The Romanow Report*

by Nadeem Esmail &
John R. Graham

Canada's first ministers will meet later this month to discuss health care. Hopefully, they will not move in the direction proposed by Roy Romanow's \$15 million *Commission on the Future of Health Care in Canada*. The commission was a costly mistake that invites Canadians to wander into a 1960s socialist utopia that never existed. Canadians have already had the opportunity to choose this vision. It is, with some more intellectual window-dressing, not far removed from the federal New Democratic Party's 2000 election platform (NDP, 2000).

Mr. Romanow envisions a government monopoly over almost all aspects of health care, which will continue to restrict patient choice and innovation. The assumptions supporting this vision are more important than the recommendations themselves, which are unlikely to survive the provinces' unwillingness to subject themselves to the stringent federal conditions that Mr. Romanow proposes.

One assumption is that only a national plan with federal oversight can solve the health care ills of a "country as geographically, economically, regionally, and culturally diverse as ours" (Romanow, p. xvii), characteristics which should demand quite the opposite prescription. His Ottawa-based Health Council would not only measure the effectiveness of health care in Canada, but also establish benchmarks for provinces to follow, co-ordinate the health planning process throughout Canada, and resolve disputes arising under the Canada Health Act (CHA). The proposed Council would have 14 board members appointed by consensus of federal, provincial, and territorial health ministers and comprising 3 public representatives, 5 provincial representatives (1 each from the West, the territories, Ontario, Quebec, and the Atlantic), 4 providers or experts, and 2 federal representatives (Romanow, p. 59). The real functions of this undemocratic Council would be to force recalcitrant provinces to toe the party line in return for federal funds, as well as look after the interests of supplier groups

such as unions, physicians, nurses, and others, with patients' voices rarely heard.

Such a centralized solution can only result in a single model of health delivery in Canada. Regrettably, the only reforms possible within such a straight-jacket are almost inconsequential.

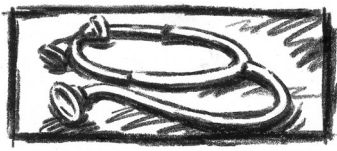
Another unfortunate assumption is that adherence to Canadian values prevents increased private choice in health care through, for example, user fees or private insurance (Romanow, p. xx). This is very odd, because while his report recognizes that our system shares many characteristics of those in Australia, New Zealand, and countries in the European Union, all of these countries employ just such options (Romanow, pp. 24-5, 89). Mr. Romanow even understands that the United States does not have a fully private, or free market, system, reporting accurately that government spending accounts for almost half of health expenditures in the US (Romanow, p. 27). Curiously, he then uses that country's failure to control health spending as the only example supporting his advocacy of the state as monopoly provider of health insurance (Romanow, p. 61). He also suggests that a non-universal system such as that in the United States is the only possible outcome that could result from the availability of parallel private health insurance (Romanow, p. xx).

Most other members of the Organization for Economic Co-operation and Development (OECD) have health systems wherein health care is provided according to residents' needs (Wagstaff *et al.*, 1992). However, contrary to the



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claim that “*The evidence has not been forthcoming*” (Romanow, p. xx, emphasis in original), there is plenty of international evidence from those countries that market-based health policy solutions work. All of the OECD countries with universal access to health care that get better health care outcomes for their citizens and provide better access to high-tech diagnostic machinery and physicians do so without forbidding private choices to patients.

Sweden, France, Australia, and Japan all outperform Canada on the combined measures of potential years of life lost to disease, disability free life expectancy, and breast cancer mortality while offering better access to high-tech diagnostic machines and doctors. In addition, none of these countries has a more expensive health care system than does Canada on an age-adjusted basis. They also have user fees, private insurance, and private clinics or hospitals (Esmail and Walker, 2002). Similar market-based reforms to Canadian health care would cost us less in the long run, both in terms of money and undesirable health outcomes.

Mr. Romanow is especially confused about private hospitals. This is perhaps forgivable, since his principle source of information is an especially bewildering article claiming that mortality rates in American private for-profit hospitals are worse than in American private not-for-profit hospitals (Romanow, p. 7; Devereaux, *et al.*). Two authors have already criticized the article, but Mr. Romanow ignored them (Graham 2002a; Seeman 2002). The article in question muddles American private, not-for-profit hospitals with Canadian public hospitals, by emphasizing the trivial distinction that: “Public funding is the main method by which Canadian hospitals obtain revenue. However, 95% of Canadian hospitals are private

not-for-profit institutions” (Devereaux *et al.*, p. 1400).

Another dangerous assumption is that individual hardship in obtaining health services not already under government monopoly, namely, care at home and prescription drugs, implies that the state should extend its control over them.

Mr. Romanow recommends including homecare in the CHA. This would only result in fewer options for patients who wish to have a higher level of homecare than that provided by the state, or who wish to choose some other form of end-of-life care, and the inability to finance their special needs through extant private insurance plans that have been designed to cater to certain groups of patients or illnesses. Though adding the service to the CHA might save a few people some money, it would likely result in all of these patients facing a lack of choice in the type of services they wish to receive, a reduction in quality resulting from a lack of competition, and the inability for patients to choose for themselves what makes them most comfortable.

While stopping short of recommending an all-encompassing National Pharmacare, Mr. Romanow’s National Drug Agency idea results from the fallacy that the state can exercise leverage through group purchasing, despite evidence that government intervention as pharmaceutical purchaser or price controller raises prices, whereas prices are lower when patients are able to shop around for themselves (Graham, 2000; 2002b; Tabler, 2002). It also embraces the notion that the state can exercise better judgment than patients and doctors over appropriate medicines, a notion disproved by the failure of British Columbia Pharmacare’s Reference Drug Plan, an ineffective attempt to do just that (Graham 2002c).

The changes necessary to get more and better care for our dollar in Canadian health care are fundamental, but do not require abandoning the principles of universal and accessible health care. A change in practice from the “free services” monopoly we have to one that includes user fees, private health care providers in competition with the public, and availability of real choice for patients both inside and outside public insurance would save both money and lives in Canada. Canada would then no longer be pursuing a unique set of health care policies when compared to other OECD countries with universal access to health care (Esmail and Walker, 2002), but would join countries that have been more successful than we have in the search for better health outcomes.

None of the Romanow report’s recommendations will address the issues surrounding the present lack of choice and accountability in the health care system. These deficiencies result from the current structure of central management and control and will not be solved by further centralization of decision-making. The solution to each of the problems perceived by Mr. Romanow is less government control, less centralized planning, and more choice and competition.

Mr. Romanow has spent over a year and about \$15 million pretending to investigate alternatives to the status quo. Provinces that have decided to ignore his process and get on with their own reforms have made the right choice. Let’s hope the federal government does the same.

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The Concept of Social Exclusion continued from page 28

The November 2000 issue of the *Canadian Medical Association Journal* included an article by Tremblay and Willms about childhood obesity. The authors point out that for Canadian children in the 7 to 13 age group, 35.4 percent of males were overweight and another 16.6 percent were obese, and 29.2 percent of females were overweight and another 14.6 percent were obese. These numbers are up markedly from 15 years earlier. A World Health Organization-sponsored study of these trends suggested that diet and lack of physical activity were clear "modifiable" causal factors.

All of this raises serious measurement questions. If a social exclusion index for children (composed of such indicators as peer relationships, recreational isolation, health status and educational success) shows an increase over time, how do we interpret that? Can we easily conclude that our governments and social institutions are failing children? Or is it possible that most of the change is due to increasing problems in the home? And we know that what goes on in the home is absolutely central to children's healthy development. Susan Meyer, in her brilliant book *What Money Can't Buy: Family Income and Children's Life Chances* maintains that the empirical evidence, in America at least, demonstrates that it is largely the qualities and characteristics of parents, and not family income or other external considerations, that determine children's outcomes.

The concept of social exclusion is of questionable value to social scientists and to policy makers. If we begin to focus attention on such a flimsy and ambiguous idea, it is likely that we will divert energy and resources away from real problems such as hunger, inadequate housing, and lack of opportunity.

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The High Price of Natural Wealth continued from page 32

Win-win is a mindset that resists corruption and prevents its spread.

The absence of the win-win perspective shows up sometimes in Canada. After Inco took over the Voisey's Bay nickel finds, then-premier of Newfoundland Brian Tobin insisted Inco build a \$180-million experimental hydro-metallurgical plant. When the company did not agree, Tobin threatened to expropriate the Voisey's Bay project through annual escalating provincial royalty payments. Tobin and his party's lust for

easy cash froze the Voisey's Bay project until recently.

If natural resources are at the root of corruption in developing economies, should a country burn its forests and blow up its oil wells? After all, Shakespeare warned: "If thine eye offend thee, pluck it out." A less drastic solution is to keep the TNT on the shelf and encourage trade. Instead of giving handouts to struggling economies, we should be opening our manufacturing markets to them.

We used to think that trade meant helping people to help themselves.

Kronenberg's research suggests that foreign trade means helping people to stop preying on themselves. By opening our agricultural and manufacturing markets to Africa and former East Bloc countries, we create in them markets where people can compete freely. Predators have more trouble intruding on a thousand businesses with diverse activities than they have in sending men with guns to occupy an oil field. 

The High Price of Natural Wealth

by Filip Palda

If any good comes of the attempt to hold the Miss World Pageant in Nigeria it will be to alert the world to a paradox. Television showed us crowds with rags on their backs looting stores for food, and humans beating each other to death and setting each other on fire. The media explained the battles as a clash between Christians and Muslims, but poverty and frustration may be the stronger forces at work. By rights, Nigerians should not be poor. Their country sits on one of the world's richest reserves of oil. But Nigeria's plight is common to members of OPEC. Countries belonging to OPEC saw their gross domestic product per person shrink at an annual rate of 1.5 percent between 1965 and 1998. Libya has the third largest reserve of petroleum, and a population no larger than London's, but its people live in circumstances few Canadians would care to sample. Oil, it seems, can pave the road to poverty.

Forests and minerals can also be bane to an economy. In an important study released this year, economist Tobias Kronenberg looked at how former East Bloc countries have thrived since the fall of communism. The central European countries that were poor in natural

resources, such as Poland, the Czech Republic, and Hungary, saw their economies grow in the 1990s. Russia, which gets 57 percent of its export revenue from natural resources, saw its economy shrink between 1990 and 1998, as did the resource-rich Central Asian countries.

Why should natural resources be a curse? According to Kronenberg, "The revenue from natural resource abundance induces rent-seeking behaviour and corruption across the bureaucracy and business elite. This increased corruption [as measured by the World Bank's State Corruption Index] slows down economic growth."

To understand this statement, it helps to look at what happened to Russia's natural resources since 1992. Businessmen with contacts in the Kremlin bought Russia's forest and mineral reserves at bizarrely low prices. In his book *Godfather of the Kremlin*, *Forbes* magazine's Russian correspondent Paul Klebnikov explains how a few "oligarchs" bribed and threatened to nab a good chunk of Russia's wealth.

Natural resources were the obvious target for post-Soviet businessmen with flexible morals and dreams of quick riches. It does not take a genius to understand that a gold mine can make you rich. All it takes to get rich is the backing of government officials, and groundwork by a private army of unemployed KGB and special forces men.

An economy might survive if the natural resource barons kept to their fiefs. The experience of the former East Bloc suggests that these barons seek to extend their power over labour and commerce in other sectors of the economy, with devastating consequences for their country's wealth. Educated Russians are fleeing their country, as are the middle classes of almost every place cursed with oil and gold. Only predators and those without the means to protect themselves stay behind to hash it out with each other in a landscape where one man's gain is the other man's loss.

There is little room for humanity or civilized existence in a country where no one sees the advantage of working with his fellow man towards a common good. It is little wonder that countries rich in natural resources are among the most energetic abusers of human rights.

Of course some countries rich in natural resources have managed to prosper. Norway spends 90 percent of its hefty oil revenue on social services. The country has chosen this way to distribute the benefits of its oil revenues to all. Norway has a strong respect for property rights and an aversion to corruption and abuse of power. During World War II, Norwegians were among the most ardent opponents of German occupation.

The lesson from Norway is that a country needs to respect property rights in order to enjoy the benefits of natural wealth. Respect for property rights means that people do not gain control of an oil patch because of their contacts in government, but because they bargain with the owners of the patch in an agreement acceptable to all. The idea that economic exchange is a win-win proposition has taken a thousand years to set in the mind of Western man.

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